

California's Waste Tire Challenge

Program Overview

California has more registered vehicles than any other state. As a result, Californians generate more than 33.3 million reusable and waste tires annually, based on estimated data for 2001. Approximately 8.4 million tires are disposed of in landfills or stockpiled in California annually, while 74.8 percent (24.9 million tires) are diverted by recycling and other means. Another 2.4 million waste tires are imported into the state for recycling.

What happens to reusable and waste tires?

The California Integrated Waste Management Board (CIWMB) is assigned the challenge of responsibly managing waste tires in California. The Public Resources Code (PRC) (sections 42860–42895) requires CIWMB to:

- Reduce landfill disposal and stockpiling.
- Establish a statewide tire recycling program to recycle and reclaim waste and used tires to the greatest extent possible.
- Protect public health and safety and the environment.

How is CIWMB's waste tire management program funded?

Assembly Bill (AB) 1843 (Brown, Chapter 974, Statutes of 1989), the California Tire Recycling Act, authorized the creation of the California Tire Recycling Management Fund. Revenue is collected from a \$1.00 fee assessed on the sale of new tires and is deposited quarterly into the tire fund. CIWMB Board Members allocate funding based on program priorities referred to in CIWMB's five-year tire plan (see "Five-Year Tire Plan" section below).

How is the tire program structured?

The waste tire management program is divided into five program elements:

1. Market development and new technology activities for waste and used tires.
2. Research directed at promoting and developing alternatives to landfill disposal of waste tires.
3. The waste and used tire hauler program and manifest system.
4. Enforcement of laws and regulations relating to the storage of waste and used tires.
5. Cleanup, abatement, or other remedial actions related to waste tire stockpiles throughout the state.

Five-Year Tire Plan

Senate Bill (SB) 876 (Escutia, Chapter 838, Statutes of 2000) requires that CIWMB adopt and submit a five-year tire plan to the Legislature. The plan—*Five-Year Plan for the Waste Tire Recycling Management Program, Fiscal Years 01/02–05/06: Report to the Legislature*—must be updated every two years. The current plan includes a detailed description of the five program elements, provides for a proposed budget allocation plan, and identifies performance criteria that will allow evaluation of the effectiveness of each program element. A revised plan will be available July 1, 2003.

Upon approval by the Governor's Office,* the plan will be submitted to the Legislature. The final draft that was submitted to the Governor's Office is available on the CIWMB publications Web site (www.ciwmb.ca.gov/Publications/), then select "Tires").

CIWMB's five-year tire plan sets six major goals for the waste tire management program:

1. Eliminate all known illegal piles of waste tires in California.
2. Identify and track the used and waste tire flow in California.
3. Reduce the legal and illegal disposal of waste

* The final draft of the five-year tire plan was revised to reflect budget changes made by the Legislature and Governor in July and resubmitted in October 2001 for the Governor's approval before submittal to the Legislature.

tires in California by increasing the reuse, recycling, and energy recovery of, or from, waste tires while protecting public health and safety and the environment.

4. Enhance alternatives, to the greatest extent possible, to the disposal of waste tires originating only in California.
5. Provide excellent customer service in a responsible and cost-effective manner.
6. Ensure that people of all races, cultures, and incomes are treated fairly and have equitable access to environmental benefits, and that no segment of the population bears a higher share of the risks and consequences of cumulative exposures to, or impacts of, environmental pollution.

For more information on the five-year tire plan, contact Sally French at (916) 341-6432 or sfrench@ciwmb.ca.gov.

Waste Tire Annual Report

The waste tire annual report presents highlights and efforts of CIWMB's waste tire management program. This report also presents data derived from an annual survey of California companies that use waste tires as feedstock. The 2000 report—*Waste Tire Management Program: 2000 Annual Report*, CIWMB pub. #620-01-006—provides baseline data (derived from each annual survey) against which to measure the success of the program elements described in the five-year tire plan.

For more information, contact Boxing Cheng at (916) 341-6434 or bcheng@ciwmb.ca.gov.

Market Development and New Technology Activities

CIWMB funds waste tire recycling activities according to priorities approved in the five-year tire plan. These include, but are not limited to, grants, loans, interagency agreements, and technical research contracts and reports.

For more information on market development and new technology activities, contact Linda Dickinson at (916) 341-6437 or ldickins@ciwmb.ca.gov, or access www.ciwmb.ca.gov/Tires/Recycling/.

Grants

CIWMB awards market development grants to businesses, universities, recognized California Indian tribes and public entities. Businesses and universities use grant funding for commercialization of waste tire products. Public entities and recognized California Indian tribes use grant funding for recycled rubber safety surfacing (playground surfaces, running tracks, and other recreational surfacing).

For more information, contact the Waste Tire Grants Hotline at (916) 341-6441 or the tire grants staff at tiregrants@ciwmb.ca.gov, or visit CIWMB's grants Web site at www.ciwmb.ca.gov/Tires/Grants/.

Recycling Market Development Loan Program

CIWMB has designated 40 Recycling Market Development Zones (RMDZ) in various geographic regions throughout California to stimulate the recycling of postconsumer waste materials, including tires. Tire-related businesses located in or relocating to any RMDZ may apply for loans for machinery, equipment, or tire recycling related costs. Additional incentives may also be offered by local jurisdictions. The five-year tire plan proposes to budget \$1.6 million per year in Fiscal Years 2004–05, then increase funding to \$2 million per year in Fiscal Years 2006–07, specifically for loans to companies located within an RMDZ that are recycling California waste tires.

For more information, contact Jim La Tanner at (916) 341-6534 or jlatanne@ciwmb.ca.gov, or visit www.ciwmb.ca.gov/RMDZ/Loans/.

Rubberized Asphalt Concrete Technology Center

The use of rubberized asphalt concrete (RAC) by local governments has the potential to recycle large quantities of waste tires. Recognizing this fact, CIWMB contracted with Los Angeles County to establish the statewide Rubberized Asphalt Concrete Technology Center (RACTC) in 1997. The focus of this center shifted to southern California jurisdictions when CIWMB entered into a contract with Sacramento County's transportation division in January 2000 to operate a northern California RACTC.

For more information, contact Nate Gauff at (916) 341-6686 or ngauff@ciwmb.ca.gov or access the RACTC Web site through CIWMB's site at www.ciwmb.ca.gov/Tires/Links.htm (then select "RACTC").

The purpose of each RACTC is to increase the use of RAC by educating local government decision-makers on its beneficial uses. To accomplish this purpose, each RACTC provides outreach and technical assistance on RAC projects, an informational Web site, and educational and informational materials on technology transfer for RAC processing and construction methods. Because of these efforts, an estimated 2 million tires have been recycled into RAC. In its five-year tire plan, CIWMB endorsed continued funding for the activities of the southern and northern California RACTCs for the next five fiscal years (2001-02 through 2005-06).

Waste Tire Management Conferences

CIWMB plans to hold tire conferences in 2004, 2006, and 2008, based on commitments in its five-year tire plan. Conferences provide a structured but informal setting for CIWMB staff and Board Members to interact with stakeholders in California's waste tire community. Attendees obtain up-to-date information on waste tire recycling, market development, and CIWMB's waste tire management strategies.

For more information, contact Patti Bertram at (916) 341-6138 or pbertram@ciwmb.ca.gov.

Waste Tire Marketing Guide

This guide provides recycling/marketing reference sources for businesses, academics, recyclers, and manufacturers interested in promoting the recovery and use of waste tires in California.

For more information, contact the Tire Recycling Hotline at (916) 341-6441 or e-mail TireGrants@ciwmb.ca.gov. You may access the guide at www.ciwmb.ca.gov/MktGuides/Tires/.

Research

CIWMB's five-year tire plan allocates funds to the following research projects:

- Tire combustion toxicity report.
- Increasing recycled content in new tires.

- Update on pyrolysis, gasification, and liquefaction.
- Energy recovery from tires.
- Devulcanization technology.
- Civil engineering uses.
- Increasing tire lifespan.
- Assessment of markets for fiber and steel by-products from recycling waste tires.
- Further RAC studies.

For more information, contact Bob Fujii at (916) 341-6419 or bfujii@ciwmb.ca.gov.

Civil Engineering Uses of Waste Tires

CIWMB has been instrumental in the development of various civil engineering uses for waste tires. It has also worked extensively with Caltrans and local government public works departments to provide technical assistance and training in the use of tire shreds in civil engineering applications. As a result, CIWMB has been successful in establishing partnerships with several State and local government agencies that identified civil engineering projects promoting the use of waste tires.

CIWMB has partnered with Caltrans to construct a highway on-ramp at Dixon Landing using tire shreds as lightweight fill. This project used approximately 660,000 waste tires. CIWMB has also partnered with the Valley Transit Authority (VTA) in the use of tire shreds as vibration dampening in its future track designs. Initial testing was successful and VTA has committed to use tire shreds in a future light rail project. Approximately 2,000 feet of double-rail track is to be constructed using tire shreds as a vibration attenuation layer. This is a new and completely innovative use for tire shreds.

Other projects include the use of tire shreds as levee reinforcement, in various landfill design and construction applications, in engineered erosion control measures, in septic tank leach fields, and as earthquake dampening material in civil engineering applications.

CIWMB will continue its efforts to promote the use of tire shreds in various civil engineering applications by awarding contracts to experts in this

field as well as continuing its outreach efforts and partnerships with State and local agencies.

Civil Engineering Grants: CIWMB's local government civil engineering grant program is geared toward the use of tire shreds or bales in civil engineering projects. Only local government agencies and public-private partnerships are eligible for this program.

For more information on civil engineering use of waste tires or civil engineering grants, contact Stacey Patenaude at (916) 341-6418 or spatenaude@ciwmb.ca.gov.

Hauler and Manifest Program

Every person who transports 10 or more waste or used tires must hold a valid waste tire hauler registration. Further, all waste tire generators, haulers, and end use facilities must comply with the California Uniform Waste and Used Tire Manifest System requirements.

For specific information regarding the program, please contact the waste tire hotline 1-866-896-0600 (toll free) or WasteTires@ciwmb.ca.gov or access www.ciwmb.ca.gov/Tires/Manifest/.

Enforcement Activities

Each year, Californians discard millions of tires that end up in stockpiles. These tires pose a danger to public health and safety and the environment because of their potential combustibility and attractiveness as breeding grounds for rodents and insects. Poorly maintained stockpiles and illegal dumping of waste tires add to the dangers. As required in legislation, CIWMB has developed programs regulating the storage and hauling of waste tires in the state.

As of December 2000, enforcement efforts by CIWMB have resulted in the cleanup of approximately 5.8 million waste tires and the investigation of 785 illegal waste tire sites since 1994.

For general information on CIWMB's tire enforcement activities, contact Don Dier at (916) 341-6290, or ddier@ciwmb.ca.gov.

Waste Tire Facility Permitting

The Board is charged with implementing the laws created to protect public health and safety and the environment from the threat posed by improperly

stored waste tires. Under these laws and regulations, those who store, stockpile, or accumulate 500 or more waste tires are required to comply with waste tire storage and disposal standards and to obtain a waste tire facility permit, exclusion, or exemption when applicable.

For more information, contact Terry Smith at (916) 341-6427 or tsmith@ciwmb.ca.gov.

California Highway Patrol Program

CIWMB staff continues to investigate aerial photographs of possible illegal waste tire disposal sites submitted by the California Highway Patrol (CHP). As of October 2001, staff has identified more than 300 sites believed to be storing waste tires. Of these sites, CIWMB staff has investigated 120 sites, resulting in various enforcement actions including letters of violation, cleanup and abatement orders, and administrative complaints. For more information, contact Stephen Posner at (916) 341-6428 or sposner@ciwmb.ca.gov.

Waste Tire Enforcement Grant Program

CIWMB's waste tire enforcement grants provide funds to local enforcement agencies and "local government jurisdictions" (local government entities such as cities or counties that have been delegated enforcement authority) for identifying illegal waste tire piles. Some of these grants allow for initial enforcement steps (letters of violation) to be taken by the local enforcement agency. The grants are available on an annual basis.

For more information, contact David Volden at (916) 341-6433 or dvolden@ciwmb.ca.gov.

Cleanup Activities

Pursuant to PRC section 42826, CIWMB may perform any cleanup, abatement, or remedial work required to prevent substantial pollution, nuisance, or injury to public health and safety at waste tire sites where the responsible parties have failed to take appropriate action as directed by CIWMB. These efforts may entail stabilizing piles until they can be removed, removal of all waste tires, and/or remediation of the site after removal of the tires. In general, these waste tire sites are referred to the waste tire stabilization and abatement program once CIWMB's waste tire enforcement program has exhausted enforcement efforts.

Since 1994, CIWMB has utilized contractors to remediate or stabilize illegal waste tire sites. As of December 2001, CIWMB has awarded four contracts totaling approximately \$8.1 million. CIWMB has removed more than 11.2 million illegally stored/disposed waste tires from 44 sites at an average removal cost of \$0.61 per tire for a total cost of nearly \$6.9 million. Of the 11.2 million illegal waste tires removed, 77 percent were diverted from disposal in landfills.

For general information on cleanup activities, contact Bob Fujii at (916) 341-6419 or bfujii@ciwmb.ca.gov.

Cleanup Grants

Local Government Waste Tire Cleanup

Grant Program: The local government waste tire cleanup grant program creates local partnerships and partnerships with California Indian tribes to facilitate the removal, transport, and disposal/reuse of waste tires from smaller tire piles. CIWMB accepts applications for the waste tire cleanup grant program throughout the year.

For more information, contact Diane Nordstrom at (916) 341-6448 or dnordstr@ciwmb.ca.gov.

Waste Tire Local Government Public Education and Amnesty Day Grant Program:

This annual, competitive grant program is available to local entities and benefits the public by (1) promoting education on the care of new tires and the proper disposal of used or waste tires, and (2) providing free disposal of waste tires during specific collection events.

For more information, contact Boxing Cheng at (916) 341-6434 or bcheng@ciwmb.ca.gov, or access www.ciwmb.ca.gov/Tires/Grants/Amnesty/.

Tire Fire Education Program

CIWMB's tire fire education program focuses on fire prevention, preparation, response, and cleanup.

While the aim of CIWMB is to stabilize all unsafe or environmentally hazardous tire piles until abatement can be completed, three large tire pile fires and several small blazes have occurred since the beginning of the tire fire education program:

- In 1996, approximately 1.5 million tires burned at the Choperena waste tire site in Fresno County.

- In 1998, another 7 million tires were consumed in the fire at the Royster waste tire site near Westley.
- In 1999, an estimated 5 million tires were consumed in the fire at the Filbin waste tire site near Tracy.

Tire fires are difficult to control and extinguish, and have the potential to pollute the atmosphere, soil, and water. The hazardous by-products left in the soil and water can make cleaning up after a tire fire extremely costly.

Through a contract, CIWMB has developed a report recommending fire prevention and firefighting techniques for urban and rural tire pile fires. The report will also address environmental monitoring recommendations and human health and safety concerns.

CIWMB plans to enter into an interagency agreement in the summer of 2003 with the Department of Forestry and Fire Protection's Office of the State Fire Marshal (OSFM) to revise and update the existing education program developed by OSFM. CIWMB will work with OSFM and other appropriate State agencies to develop a tire fire response protocol.

For a list of classes and information on tire fire response protocol, contact OSFM's training division at (916) 445-8200. For more information on CIWMB's tire fire education program, contact Gale Grigsby at (916) 341-6420 or ggrigsby@ciwmb.ca.gov.

Other Activities and Information

Tire-Related Publications

Tire-related publications produced by the Board are available from our online publications catalog (www.ciwmb.ca.gov/Publications/), then select "Tires"). It includes information about each publication, links to online versions, and information on ordering hard copies. A few tire-related documents not listed in the catalog are available through the tire program.

For more information, contact Elena Yates at (916) 341-6668 or eyates@ciwmb.ca.gov.

Recycled Product Trade Show

CIWMB's annual recycled product trade show allows local governments and State agencies to view new recycled-content products made from waste tires and other recycled materials. Companies selling recycled-content products, especially those using waste tires as feedstock, are encouraged to exhibit.

For more information, contact Jerry Hart at (916) 341-6473 or jhart@ciwmb.ca.gov.

State Procurement Program

The California Department of General Services (DGS) is responsible for specifications for purchase of retreaded tires for its fleet of non-emergency vehicles. In the contracting process the State gives a five percent preference for purchase of products made from recycled tires. Products include, but are not limited to, retreaded tires, asphalt rubber, floor tile, carpet underlay, rubber, oil, natural gas, carbon black mats, drainage pipe, and other products made from waste tires.

For more information, contact Jim Byers, Department of General Services, at (916) 375-4551, or jbyers@dgs.ca.gov.

CalMAX

CalMAX is a free service that promotes materials exchange and helps businesses find markets for

materials they have traditionally discarded.

Materials that one business discards may become a resource for another. Both "available" and "wanted" CalMAX listings have been placed for used tires.

The CalMAX catalog is published quarterly. Listings are also searchable at the CalMAX Web site (www.ciwmb.ca.gov/CalMAX/).

For more information, access www.calmax.org or contact CalMAX's toll-free number, 1-877-520-9703 (toll-free). E-mail can also be sent to Diana Rivera at drivera@ciwmb.ca.gov.

Waste Reduction Awards Program (WRAP)

Waste tire businesses as well as other businesses in California may apply for a WRAP award to acknowledge voluntary waste reduction practices. Applicants are honored based on a set of criteria developed in cooperation with the business community.

For more information, contact Piper Miguelgorry at (916) 341-6604, or e-mail WRAP@ciwmb.ca.gov.

You may also obtain an award application at the WRAP Web site (www.ciwmb.ca.gov/WRAP/).

For additional information on CIWMB's waste tire management program, call our Tire Recycling Hotline at (916) 341-6441 or refer to our tires Web site at www.ciwmb.ca.gov/Tires/.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, Flex Your Power and visit www.consumerenergycenter.org/flex/index.html.